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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/868,244	07/10/2001	Mikko Sievanen	19380.0006	7004

7590

06/18/2003

Swidler Berlin Shereff Friedman
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EXAMINER

PIERCE, WILLIAM M

ART UNIT PAPER NUMBER

3711

DATE MAILED: 06/18/2003

18

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/868,244

Applicant(s)

SIEVANEN ET AL.

Examiner

William M Pierce

Art Unit

3711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-22 and 24-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-22 and 24-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 3711

DETAILED ACTION

Claim Rejections - 35 USC § 103

Claims 1-22 and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brunst in view of Beamish and further in view of Honeycomb Product and Paneltec as set forth in the previous office action.

Response to Arguments

Applicant's arguments filed 4/3/03 have been fully considered but they are not persuasive.

Applicant request consideration based on his presumption that the "Honeycomb Products" references are not valid. First it should be noted however that this reference was applied to show the general level of skill in structural panels and the use of honeycomb in their core. While it is apparent from the tone of applicant's remarks that he chooses to ignore that such panels are widely used and well known for their properties of light weight to strength and stiffness. Secondly, honeycomb panels have been around since way back in 1948 as is evident from Beamish. Many exhaustive combinations of materials have been used in their construction since that time. However, applicant does not argue the combination of materials. Instead he argues the date of the references chosen to show the level of skill. Lastly it is made of record that this argument is not persuasive since the Honeycomb website showing that it was created and "last modified" as early as July 02, 1997. This predates applicant's stated claim for priority of December 18, 1998. Note the three pages of screen shots taken from the Website of this reference that are Appended to this office action.

Applicant's second issue is to imply that "Honeycomb lamination is relatively new". As set forth above with respect to Beamish, it is clearly not nor is applicant the inventor of these panel and their known benefits. As stated by Paneltec it has been know in the aircraft industry for many years for it benefits of high strength, flatness and resistance to torquing and bending. These benefits are ideal for a bowling lane surface. Even so, the panels have been costly and have not been economically feasible for many applications. As further stated by Paneltec they "have brought prices...down to earth" were many applications are now feasible. Applying a known product that has become cost effective is not considered a patentable advance. This is clearly recognized in the MPEP at 2144.07 when a device is recognized suitable for an intended purpose. Stated therein is that the selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327, 65 USPQ 297 (1945) (Claims to a printing ink comprising a solvent having the vapor pressure characteristics of butyl carbitol so that the ink would not dry at room temperature but would dry quickly

Art Unit: 3711

upon heating were held invalid over a reference teaching a printing ink made with a different solvent that was nonvolatile at room temperature but highly volatile when heated in view of an article which taught the desired boiling point and vapor pressure characteristics of a solvent for printing inks and a catalog teaching the boiling point and vapor pressure characteristics of butyl carbitol. "Reading a list and selecting a known compound to meet known requirements is no more ingenious than selecting the last piece to put in the last opening in a jig-saw puzzle." 325 U.S. at 335, 65 USPQ at 301.). See also *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960) (selection of a known plastic to make a container of a type made of plastics prior to the invention was held to be obvious); *Ryco, Inc. v. Ag-Bag Corp.*, 857 F.2d 1418, 8 USPQ2d 1323 (Fed. Cir. 1988) (Claimed agricultural bagging machine, which differed from a prior art machine only in that the brake means were hydraulically operated rather than mechanically operated, was held to be obvious over the prior art machine in view of references which disclosed hydraulic brakes for performing the same function, albeit in a different environment.). In the instant case, honeycomb is a material dating back to the 1940s with well known properties and applications. One skilled in the art would clearly consider honeycomb panels when looking for a product having physical properties that can endure those needed in a bowling lane. In *In re Sovish*, 226 USPQ 771, 769 F2d 738 there is a great quote about the skilled worker:

The question here, however, is not meeting the terms of the claims. The rejection is for obviousness of what is claimed, which involves consideration of the ordinary skill of the art. As for resulting in a useful device, appellants are talking about other panels that may be suitable in place of the panels used by Brunst. They are assuming that one of ordinary skill would not appreciate the known low weight and high stiffness properties attributed to honeycomb structural panels and that one would never consider using such panels. However, this argument presumes stupidity rather than skill on the part of those practicing in the art (*In re Sovish*, 226 USPQ 771, 769 F2d 738). As such applicants arguments are not persuasive.

Applicant believes that his invention "includes other layers" that make it patentable. However such is not the case when one considers the limitation of the claimed invention. More specifically, claim 11 calls for a laminate layer, board layer and a supporting structure layer. The supporting structure layer and the board layer are required of every structural panel as is clearly taught by Beamish. Honeycomb Products clearly teaches that the panels may be "laminated" as an option. Paneltec further makes it clear on pg. 3 that such panels are great for "moveable floors". Put this all together and one has the obvious motivation "to have a lightweight durable bowling

Art Unit: 3711

surface” as stated on pg. 2, ln. 10 of the previous office action and not “design choice” as alleged by applicant in at the bottom of pg. 4 of his remarks.

There is no evidence that “buckling and warpage effects can occur in connection with honeycomb products”. As stated above and substantiated by Paneltec is their “resistance to torquing and bending”. This argument fails to be even remotely persuasive.

The present invention is neither a new composition nor is it a new structure. Applicants have applied commercially available panels having known properties for use in a bowling lane in place of the panels previously used by Brunst. As set forth above, this is not a patentable advance.

The demands place upon a bowling lane during use is not a persuasive argument. As stated above, surely ones skilled in the art would consider whether or not a composite panel possesses the physical properties required for its intended purpose on a bowling lane. Where applicant criticizes the use of Kraft paper, it is well known that the core of honeycomb panels can be many other materials, such as aluminum. See Beamish col. 2, ln. 2 and “Panel Projects” appended to this action.

Applicant’s subsequent arguments argue against the references individually. However, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant’s point in citing all of col. 2 of Beamish is unclear. Beamish mentions the distortion when the face plate and core are pressed together only to state that this is a problem that he has solved. He produces structural members free from distortion. How applicant comes to the conclusion that Beamish’s method cannot be applied on the construction of elements of a bowling lane is perplexing at best. Once again applicant chooses to ignore the many different type of construction known for honeycomb panels. The rejection is not being based on Beamish alone. As set forth above, this grounds for rejection is “what is old and well known, pertaining to the construction, properties and applications of honeycomb panels”.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

Art Unit: 3711

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication and its merits should be directed to William Pierce at E-mail address bill.pierce@USPTO.gov or at telephone number (703) 308-3551.


Any inquiry not concerning the merits of the case such as **missing papers, copies, status or information** should be directed to Tech Center 3700 Customer Service Center at (703) 306-5648 where the fax number is (703) 308-7957 and the email is Customerservice3700@uspto.gov.

For **official fax** communications to be officially entered in the application the fax number is (703) 305-3579.

For **informal fax** communications the fax number is (703) 308-7769.

Any inquiry of a general nature or relating to the **status** of this application or proceeding can also be directed to the receptionist whose telephone number is (703) 308-1148.

Any inquiry concerning the **drawings** should be directed to the Drafting Division whose telephone number is (703) 305-8335.



WILLIAM M. PIERCE
PRIMARY EXAMINER

Honeycomb Products Corporation has the following structure:

- <http://www.honeycombproducts.com/smcell2.htm>
 - Background Image: <http://www.honeycombproducts.com/back.jpg>
 - Image: <http://www.honeycombproducts.com/logo.gif>
 - Image: <http://www.honeycombproducts.com/hexdot.gif>
 - Image: <http://www.honeycombproducts.com/hexdot.gif>
 - Image: <http://www.honeycombproducts.com/hexdot.gif>
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 - Image: <http://www.honeycombproducts.com/hexdot.gif>
 - Image: <http://www.honeycombproducts.com/hexdot.gif>
 - Image: <http://www.honeycombproducts.com/hexdot.gif>

Location: <http://www.honeycombproducts.com/smcell2.htm>

File MIME Type: text/html

Source: Currently in disk cache

Local cache file: MVPAKDOU.HTM

Last Modified: Thursday, December 24, 1998 4:01:00 AM Local time

Last Modified: Thursday, December 24, 1998 9:01:00 AM GMT

Content Length: 4470

Expires: No date given

Charset: Unknown

Security: This is an insecure document that is not encrypted and offers no security protection.

Honeycomb Products Corporation has the following structure:

- <http://www.honeycombproducts.com/smcell.htm>
 - Background Image: <http://www.honeycombproducts.com/back.jpg>
 - Image: <http://www.honeycombproducts.com/logo.gif>
 - Image: <http://www.honeycombproducts.com/smcell1.jpg>
 - Image: <http://www.honeycombproducts.com/hexdot.gif>
 - Image: <http://www.honeycombproducts.com/hexdot.gif>
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Location: <http://www.honeycombproducts.com/logo.gif>

File MIME Type: image/gif

Source: Currently in disk cache

Local cache file: MU4040LV.GIF

Last Modified: Wednesday, July 02, 1997 5:20:26 AM Local time

Last Modified: Wednesday, July 02, 1997 9:20:26 AM GMT

Content Length: 30198

Expires: No date given

Charset: Unknown

Security: This is an insecure document that is not encrypted and offers no security protection.

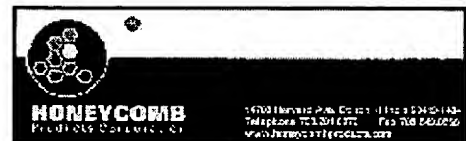
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Image dimensions: 598 x 180

Color: 16-bit RGB true color.

Colormap: (none)

Transparency: yes, backdrop visible through transparency



Honeycomb Products Corporation has the following structure:

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 - Image: <http://www.honeycombproducts.com/logo.gif>
 - Image: <http://www.honeycombproducts.com/smcell1.jpg>
 - Image: <http://www.honeycombproducts.com/hexdot.gif>
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Location: <http://www.honeycombproducts.com/smcell1.jpg>

File MIME Type: image/jpeg

Source: Currently in disk cache

Local cache file: MUOV2CI7.JPG

Last Modified: Wednesday, July 02, 1997 9:23:30 AM Local time

Last Modified: Wednesday, July 02, 1997 1:23:30 PM GMT

Content Length: 32009

Expires: No date given

Charset: Unknown

Security: This is an insecure document that is not encrypted and offers no security protection.

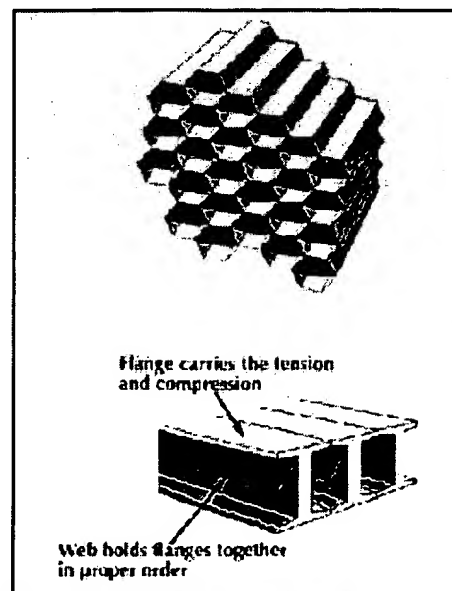
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Color: 16-bit RGB true color.

Colormap: (none)

Transparency: no



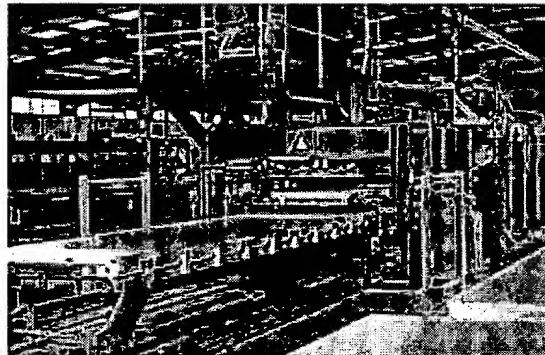


HONEYCOMB PANELS

[Return to Honeycomb Panels](#)

Sandwich panels utilizing HONEYCOMB CORES result in lightweight, high strength units that are very rigid. Indeed they give Honeycomb Panels the best strength to weight ratio of any construction available.

The Honeycomb Core material is stretched or preformed into a Hexagonal structure to which are bonded facing skins to form the sandwich panel. The bonding process for [Honeycomb Panels](#) is carried out in a heated hydraulically controlled press to ensure uniformity of each panel. The panel remains in the press during the adhesive curing process, this is closely controlled taking account of press and ambient temperatures to ensure reliability of bond.



An extensive range of cores is available for Honeycomb Panels, ALUMINIUM (See separate dedicated sheet), POLYCARBONATE, POLYPROPYLENE and ARAMID IMPREGNATED PAPER to special application CARBON IMPREGNATED types. All the cores have differing properties covering a wide range of applications for Honeycomb Panels. Facing sheet materials are selected to suit the application, some forming the sandwich to receive a further finishing coat, others form the exposed product.

CORE PROPERTY SUMMARY FOR HONEYCOMB PANELS

Polycarbonate (PC)

- Temperature usage to 90°C.
- Corrosion resistant
- Fire resistant
- Fungi Resistant
- Good Thermal and electric insulator.

Structural Properties		
Cell Size(Inches)	Compressive strength (P.S.I.)	Density(Lbs/Cu.Ft)
Minimum		
1/8	175	4.0
1/4	110	3.0
Maximum		
1/8	1000	10.0
1/4	1110	10.0

Polypropylene (PP)

- Temperature usage to 80°C.
- Corrosion resistant
- Sound & vibration dampening.
- Fungi Resistant.
- Energy absorbing.
- Recycleable

Structural Properties		
Cell Size(Inches)	Compressive strength (P.S.I.)	Density(Lbs/Cu.Ft)
0.30	235	5.0
0.40	140	4.0

Aramid Fibre (PN)

- Fire Resistant (Self Extinguishing)
- Corrosion resistant
- Good Thermal Insulation.
- Excellent Dielectric properties.
- Commercial and Aerospace grades.

Structural Properties (Selected Range only many others available)			
Cell Size(Inches)	Compressive strength (P.S.I.)	Compressive strength (P.S.I.)	Density(Lbs/Cu.Ft)
	Minimum values	Typical Values	
1/8 from	70	110	1.8
1/8 to	1400	1870	9.0
3/16 from	90	150	2.0
3/16 to	580	650	6.0
1/4 from	45	90	1.5
1/4 to	310	370	4.0
3/8 from	45	90	1.5
3/8 to	180	285	3.0

FACINGS

The combination of cores and faces specified affects the honeycomb panels weights, strength and stiffness greatly and should be selected to ensure the final properties meet the application requirements in terms of panel performance and cost price.

SPECIFICATION FOR HONEYCOMB PANELS

Please consult with us, we will be happy to advise and provide a range of solutions with costs during initial stages, to tailor the product to your individual requirements in an economic and efficient manner.

No mention of the products or system you are looking for?

Please detail your requirements in the space provided
and we will be happy to help you.

[Redacted]

[Redacted]

[Redacted] **SEND**



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panel projects

ALUMINIUM HONEYCOMB PANELS

Return to Honeycomb Panels

Aluminium Honeycomb panels are used to form lightweight, high strength sandwich units that are extremely rigid. The Aluminium Core is manufactured in several grades from 3003 general applications to 5052 and 5056 for use in Military applications.

Aluminium 3003 as a core material has the following attributes

- Temperature usage up to 175 ° C
- High Thermal Conductivity
- Flame resistance
- Moisture and Corrosion Resistance
- Fungi Resistant
- High Strength
- Low weight

Aluminium Honeycomb Panels Core material wafer block is stretched into a sheet of Hexagonal structure on purpose designed computer-controlled equipment to give a consistent cell dimension. The walls of the cells can have micro perforations to allow movement of air between adjacent cells equalizing pressure in environments with rapid temperature variation.

The cell size, depth of material, thickness of cell walls and grade of Aluminium are all variable to suit specific requirements and tailored to impart the correct properties in the final manufactured units.

The aluminium core is available in 5 cell sizes the Compressive strength follows according to the size selected as can be seen from the data below.

Aluminium Honeycomb Panels (Using 3003 Grade Commercial Aluminium)			
Cell Size (Inches)	Compressive strength (P.S.I.)	Density * (Lbs/Cu.Ft)	Gauge (Inches)
1/4	620	5.2	0.003
3/8	325	3.6	0.003
1/2	165	2.5	0.003
3/4	110	1.8	0.003
1.0	75	1.2	0.003
<i>All data above refers to 3003 Grade Commercial Aluminium. Other densities and gauges are available.</i>			

MANUFACTURE OF ALUMINIUM HONEYCOMB PANELS

The expanded core is bonded to the outer facings with a two pack adhesive, its properties allow it to "wick" on to the core cell walls to ensure large area of contact. The adhesive is applied on a dedicated computer controlled spray booth facility, which allows close monitoring of coat weights and accurate application to all substrates.

During this stage any inserts or conduits can be included within the core to allow site fixing or wiring of ancillary fittings to concealed points. Panels can have structural frames incorporated in the same manner to agreed configuration.

The sandwich faces and core are laid up and accurately aligned prior to transferring by means of roller table to the press.

The final bonding process is carried out in a heated hydraulically controlled press to ensure uniformity of each panel. The panel remains in the press during the adhesive curing process, this is closely controlled taking account of press and ambient temperatures to ensure reliability of bond.

After the curing process has been completed the panels are removed from the press, inspected and stacked with appropriate interleaving prior to transfer to Packing and Despatch area.

The Aluminium Honeycomb panels will be wrapped and strapped suitable for mechanical handling and where required crated suitable for onward freighting. The specifications for the protection and marking will be as agreed with individual clients.

QUALITY

All operations will be carried out in accordance with an ISO 9000 accredited quality scheme. We encourage client visits, particularly during manufacture of their products; likewise any client specified external inspection authority is welcome for any individual contract. We will incorporate Client specified checking procedures, in addition to our in house monitoring, upon request, subject to mutual agreement prior to execution of the order.

SPECIFICATION

Aluminium Honeycomb Panels core as detailed can be specified in a large range of cell sizes generally the smaller the size the higher panel strength with greater resistance to impact. Core costs rise with cell size reduction and grade of aluminium used from commercial grade to certificated specifications. It is important to use the correct materials to form the sandwich panels to achieve desired results at economic cost.

Please consult with us, we will be happy to advise and provide a range of solutions with costs during initial stages, to tailor the product to your individual requirements in an economic and efficient manner.

No mention of the products or system you are looking for?

Please detail your requirements in the space provided
and we will be happy to help you.

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